

CLAIMS

1. Electromotive linear drive, comprising a housing, at least one motor pot, at least one attachment element as well as a power feed cable, an extendible lifting tube, and a fixed flanged pipe, characterized in that at least the connection zones of the housing (11) with the motor pot (12) and the attachment part (13) are cylindrically configured, that the connection zones in radial direction are implemented through a rotary motion of the housing (11) and/or the motor pot (12) and/or the attachment part (13), and that the connection zones are form-fittingly designed in axial direction.
2. Electromotive linear drive according to claim 1, characterized in that the connection zones of the housing (11), of the motor pot (12) and the attachment part (13) have meshing threads.
3. Electromotive linear drive according to claim 1, characterized in that the connection zones of the housing (11), of the motor pot (12) and the attachment part (13) are configured in the form of a bayonet joint.
4. Electromotive linear drive according to claim 2, characterized in that the housing (11) is provided with external threads and/or internal threads.
5. Electromotive linear drive according to claim 2 or 4, characterized in that the motor pot (12) is provided with internal threads and/or external threads, and that the attachment part (13) is provided with external threads and/or internal threads.
6. Electromotive linear drive according to one or more of the preceding claims 2 to 5, characterized in that the motor pot (12) is configured as ring element

and closely placed in the annular gap between the motor and the housing (11).

7. Electromotive linear drive according to claim 6, characterized in that the ring element corresponds with the threads of the housing (11).
8. Electromotive linear drive according to one or more of the preceding claims 1 to 7, characterized in that the casing of the motor has a pot-shaped configuration and is open on the housing-proximal side, and that a seal is received in the formed annular gap.
9. Electromotive linear drive according to one or more of the preceding claims 1 to 8, characterized in that securing elements are provided in the connection zones between the housing (11) and the motor pot (12) with internal thread and/or the attachment part (13).
10. Electromotive linear drive according to claim 9, characterized in that resilient tongues, bolts or pins are provided in the connection zones for engagement in recesses.
11. Electromotive linear drive according to one of the claims 2, 4, or 5, characterized in that the connection zone between the housing (11) and the attachment part (13) has multiple thread portions, preferably four thread portions.
12. Electromotive linear drive according to claim 11, characterized in that the attachment part (13) is securable preferably in two positions of the housing (11).

13. Electromotive linear drive according to claim 9, characterized in that the securing element between the housing (11) and the motor pot (12) and/or the securing part (13) is configured as a radial tooth system (32) on the housing (11), and that at least one locking tooth is mounted on the motor pot (12), or that the securing elements are configured as mechanical connection elements.
14. Electromotive linear drive according to one or more of the preceding claims 1 to 8, characterized in that the housing (11) or the motor pot (12) includes a socket receptacle, and that the power feed cable (16) has a small plug (17) in flat format or round format for insertion in the socket receptacle, or that each conductor of the power feed cable carries a plug.
15. Electromotive linear drive according to claim 14, characterized in that the plug (17) of the power feed cable (16) for insertion in the socket receptacle is secured by a securing element.
16. Electromotive linear drive according to claim 15, characterized in that the securing element is a cover cap (34) placed from outside upon the plug (17) and secured by resilient locking tongues, or that the securing element can be placed from inside upon the plug (17) and has a fork-shaped configuration.
17. Electromotive linear drive according to one or more of the preceding claims 1 to 11, characterized in that the flanged tube (14) has a guide element on the free end zone distal to the housing (11) for guiding the lifting tube (15), and that the guide element is made of a guide bushing (35) and a flange (36) configured in correspondence to the inner contour of the flanged tube (14).

18. Electromotive linear drive according to claim 17, characterized in that on the side of the guide element (35) distal to the housing (11) there is arranged a sealing element (36) through which the lifting tube (15) is guided, and that the bore of the sealing element (37) has associated thereto a sealing lip.
19. Electromotive linear drive according to claim 18, characterized in that the sealing lip is made of a material of less hardness than the remaining sealing element.
20. Electromotive linear drive according to one or more of the preceding claims 1 to 19, characterized in that the flanged tube (14) is provided on the side distal to the housing (11) with a cover cap (34) which is connected with the flanged tube (14) by means of mechanical connection elements.
21. Electromotive linear drive according to one or more of the preceding claims 1 to 16, characterized in that a standardized seal is received in the end cap (28).
22. Electromotive linear drive according to one or more of the preceding claims 1 to 19, characterized in that a standardized seal is received in each of the connection zones between the housing (11) and the motor pot (12) and the attachment part (13).
23. Electromotive linear drive according to one or more of the preceding claims 1 to 22, characterized in that the sealing element and the guide element form a single-piece form part.
24. Electromotive linear drive according to one or more of the preceding claims 1 to 23, characterized in that the sealing element is configured as permanent-elastic or hardenable liquid seal.

25. Electromotive linear drive according to one or more of the preceding claims 1 to 17, characterized in that the outer surface area of the flanged tube (14) has a steady curvature at least in the sealing zone.
26. Electromotive linear drive according to one or more of the preceding claims 1 to 25, characterized in that the linear drive (10) is provided with a rotatably propelled spindle (22) and an attached spindle nut (23) which is restrained against rotation, and that the end positions of the spindle nut (23) is defined by limit switches (24, 25) which are received on a limit switch rail (26) fixed in the flanged tube (14).
27. Electromotive linear drive according to claim 26, characterized in that the width of the limit switch rail (26) is greater than the width of each limit switch (24, 25).
28. Electromotive linear drive according to claim 26 or 27, characterized in that each limit switch (24, 25) either triggers a control signal or that each limit switch (24, 25) causes a stoppage of the motor current.
29. Electromotive linear drive according to one or more of the preceding claims 1 to 28, characterized in that the worm wheel (20) is linked in driving relationship with a release disk (21), and that the release disk (21) is actuatable by means of a release lever (30), a Bowden pull or the like.
30. Electromotive linear drive according to one or more of the preceding claims 1 to 29, characterized in that the linear drive (10) is provided with a spindle (22), and that the spindle is formfittingly pinned, riveted or connected, e.g. tumbled with the worm wheel (20) driving it.

31. Electromotive linear drive according to one or more of the preceding claims 1 to 30, characterized in that the housing (11) has circular cross sections, and that at least two circular cross sections regions extend at an angle relative to one another.
32. Electromotive linear drive according to one or more of the preceding claims 1 to 31, characterized in that the flanged tube (14) has an oval-shaped configuration, or has a contour on the inner side which deviates from the circular ring shape, and that the spindle nut (23) is closely guided in the flanged tube (14).
33. Electromotive linear drive according to claim 32, characterized in that the spindle nut (23) is with a switching lobe to operate the limit switches (24, 25).
34. Electromotive linear drive according to one or more of the preceding claims 1 to 15, characterized in that the spindle nut (23) is configured as safety nut and is comprised of a plastic part and a safety part, preferably of metal, or that a safety nut is flange-mounted to the spindle nut (23), and that the safety nut is comprised of a plastic part and a part made of metal or plastic with higher strength.
35. Electromotive linear drive according to claim 9, characterized in that the securing elements are configured in the form of locking tongues and formed onto at least one of the components to be joined, and/or that the securing elements are configured as mechanical connection elements in the form of bolts, rivets or the like, and/or that the securing elements are material interconnected connection elements, for example in the form of glues.

36. Electromotive linear drive according to one or more of the preceding claims 1 to 28, characterized in that the electromotive linear drive (10) is provided with a respectively designed tool aid for loosening the securing elements.
37. Electromotive linear drive according to one or more of the preceding claims 1 to 29, characterized in that the free housing (11) distal end of the spindle (14) is provided with a widened area or thickened area for formation of a form-fitting end stop for the spindle nut (23).